

A systemic analysis of the role that climate, natural resource and food systems play in conflict and peace is key to design and implement interventions addressing and preventing conflict. This document is one part of the 6- policy note outputs from the CGIAR Climate Security Webinar Series. These notes summarize the key messages made during the webinar panel discussion. Recordings of the webinar sessions can be found [here](#).

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Panelists and short summary

In this webinar we were joined by two global experts to engage in on the role of climate and food systems science in conflict prevention and peace-building:

- **Dr. Sonja Vermeulen**, Director of Programs, CGIAR System Organisation
- **Dan Smith**, Director, Stockholm International Peace Research Institute\

The way we conceive conflicts is evolving against the background of an increasingly variable climate and fast-paced environmental degradation. The strained resilience of vulnerable populations, exposed to higher risks of disease, insecurity, hunger, and violence, requires new approaches to counter those trends. Variations in climate, by exacerbating existing political, economic, social, and environmental vulnerabilities, increase the risk of conflict. This raises a fundamental question: Does current peace and conflict thinking integrate climate and food security viewpoints? From a systemic perspective, the intricate linkages between climate, food security and conflict call for a dynamic integration of diverse sources of knowledge to develop new strategies that address the root cause.

On this, the complexity of conflicts rooted in the lethal combination of environmental changes, social vulnerabilities, and faulty governance must be tackled with a great dose of innovation by the institutional security framework (multilateral and regional organisations, Security Council, P5s, national governments) overseeing climate dynamics. This concerns not only the sustenance of social, political and economic stability but the imperative necessity to address inequality, which works as a central conflict trigger, in all its multiple and intersectional forms.

It is appropriate to determine how conflict and food systems experts and institutions can collaborate and map a joint agenda linked to a cross-disciplinary systemic approach, one that can leverage the comparative advantages of a multitude of highly diverse teams in tackling such a complex issue. In doing this, policymakers and leaders could facilitate the integration of climate and food system perspectives into the conflict/security analysis stream. This will secure a broader and more effective route to conflict prevention and resolution through a multidimensional and more comprehensive understanding of the wide network of impact pathways, elucidating new points of inflection.

The interactions between climate, food systems and conflict

Irregular and extreme variations in climate have a substantial impact on food production globally. Minor shifts in precipitation patterns, such as a late arrival of the monsoon, or a lack of rainfall in the key stages of crop growth, can have significant consequences on crop yields. More extensive climate shocks, such as long drought spells or major floods, induced by El Niño or La Niña events, are even more disruptive at scale and have great potential to destabilize rural livelihoods. The destructive impact is exponential for smallholder farmers, vulnerable and far less resilient, especially those who are highly dependent on rainfall for irrigation. Indeed, Sonja stressed that looking towards the next 20-30 years, climate change arching on a broader spectrum will further complicate these exposures.




“Within even the next decades, we're going to see entire regions having to move out of centuries-old farming cultures, into new climates that just haven't been experienced in human history. [They will have to try] to come up with entirely new ways of farming and making a living. Indeed, many people will have to migrate out of where they're living now, either because temperatures have become impossible to live in, or otherwise farming has become impossible for some reason or another.”

Sonja Vermeulen, CGIAR

Both speakers concurred that the ability to cope and adapt to these challenges is largely dependent, at the national scale, on the capacity of state actors to provide support to its citizens and orchestrate a rural transformation, along with the capacity of the agricultural sector to adopt the relevant knowledge and technical expertise. In regions prone to conflict or emerging out of conflict, however, the ability to achieve this knowledge and structural transition faces a myriad of barriers, including a weak state presence among rural areas and low levels of development in remote areas, precisely where the change of paradigm is most needed. It is within these regions, where rural livelihood opportunities are already limited, that the different layers of economic and environmental vulnerabilities can further strain relationships between the state and its people, posing a significant challenge to sustainable development and peace. Dan and Sonja noted the example of South Sudan, where poor market information, high vulnerability to climate variability and food insecurity drove farmers to make short-term economic decisions, selling productive capital, such as livestock to cope

with the challenges. Combined with a weak state presence, these circumstances provided, like in many other regions with similar contexts, the opportunity for Al Shabab, a jihadist group to provide aid to the farmers and recruit them into the organisation.

A circular portrait of Dan Smith, a man with a beard and glasses, wearing a light blue shirt.

“ All environmental issues are about society and governance, how we as humanity, communities and societies relate to nature. So how that relationship is arranged, whether it's governed well or not, is going to decide whether when climate change and the impacts are felt, whether those are droughts or floods or sea level surge. How will the government and the local community respond? ”

Dan Smith, SIPRI

This interconnectedness is at the source of many challenges but also holds the key for fundamental solutions. Recognising these linkages between climate, rural livelihoods and conflict, academia has sought to identify and understand this complex relationship. While results have been inconclusive about a direct causal relationship between climate and conflict, a growing body of research demonstrates that conflict is driven through an extremely complex web of feedback loops, involving environmental, social, economic and institutional variables. Climate, and its impact on food security, contributes as one key element and multiplier among the many drivers.

An opportunity for connecting different perspectives

Multidisciplinary engagements offer an opportunity for further research and institutional collaboration. Traditionally, conflict and security research and entire bodies of knowledge on policy have operated in relative silos structured around their hubs of expertise and practice. This is often the status quo. However, it is important to recognise that while development studies, climate change, food systems research and security studies have their different approaches in addressing their respective fields, common to all these disciplines there is a shared objective of securing resilient and sustainable livelihoods that contribute to a sustainable peace. Thus, bridging these perspectives can complement and extend further the reach of each field, yielding co-benefits that contribute to common goals. In the end, as climate policy needs to look at institutional fragility and governance, conflict interventions should broaden its operational spectrum by including climate and food security content and recommendations.



“If climate change and related issues like food insecurity, are not taken seriously by security planners around the world, then their agenda is going to become increasingly unmanageable during the 2020s and into the 2030s”

Dan Smith, SIPRI

Connecting these areas of science and policy promises great returns. Within the arena of climate and food systems research, existing scientific tools can be leveraged to generate information that can be of benefit for security planners, and climate-sensitive rural development approaches can aid in the process of resilience building. For example, Sonja called attention to the integrated climate models that explore energy scenarios, biodiversity, land use food and, and climate in the upcoming decades. These tools allow for strategic forward planning, to deliver policy responses that can contribute to addressing food security challenges in the 2050s and onward. Tackling practical problems in the field, climate information services improve the decision making of farmers, allowing them to be more capable of adapting to sudden onsets, which have direct and substantial implications on security, humanitarian and development planning and policy. Returning to the example of South Sudan, the use of satellite technology and modelling can aid governments in identifying new pasture areas or new watering spots to help manage resources more effectively. Case in point, solutions like this also have important implications on governance and institutional decisions linked to security and de-conflicting efforts.



“We cannot underestimate how useful it can be for governments, development agencies and others to be provided with more information in an affordable and realistic kind of way. Just making sure that farmers have at their fingertips, not a set of instructions, but a set of information that they can use to determine planting dates or different kinds of agricultural choices that they make can build a kind of resilience that doesn't necessarily cost a great deal of money.”

Sonja Vermeulen, CGIAR

Reflecting on the current state of collaboration on climate, food systems and security studies, Dan Smith noted that there is still a long way to go. Conflict and security studies still have not fully

incorporated climate risks and its potential impact on food systems into account. The agenda is well not established among key actors in the security arena. Within the UN agencies, the agenda is shaping but not pulling enough traction within the Security Council. That said, new initiatives are emerging as essential strategic and operational bridges are seeing the light, such as the Group of Friends on climate security, the Independent Climate Security Expert Network, the Climate Security Mechanism (CSM) connecting the UN DPPA (Political Affairs and Peacebuilding), UNDP and the UN Environment Programme. This last body has been established to explore the linkages between climate and conflict and provide assessments when needed. While the unit has been small to deal with such a large-scale issue, it is significant in that there has been an institutional home for handling questions between climate change, insecurity and the risks that can result from it. There is substantial progress in this area, but much remains to be done. At the same time, beyond the policy sphere, a reframing of the challenge at hand must also occur. It is not just security actors looking at climate change with their traditional tools but embracing the complexity of climate challenges and be ready to build new partnerships, while revamping even their own basic premises and institutional frameworks.

Ways forward

As illustrated by this discussion, in the large spectrum from conflict prevention to peacebuilding, disruption of food systems and the ensuing devastating consequences in food security register as a key element within any analysis or policy. To address this, we need to develop a more integrated, multidisciplinary, and broader understanding of our food systems, encompassing as well as a key priority, a well-developed security dimension. Here, we propose two objectives going forward:

(1) Engaging partnerships and establishing initiatives to bridge climate and food system science with the policy and security arena.

In creating the interface between science and policymakers, it is important to ensure that the overall framework reflects the know-how of science partners. This implies that there must be a more fluid and collaborative structure between those who have been working on the different topics related to climate change and those looking at climate change from the perspective of policy with the objective of preventing or dealing with conflict. Clearly, the Climate Security Mechanism is a very good step on this direction, which needs to be complemented by a massive and organised engagement from scientific partners not only at the expert's level but also institutionally.

Regarding policy (development and support), the idea is to create or consolidate fluid channels between policymaking and science interlocutors, so that they can work collaboratively and provide security bodies with the benefits of a permanent, integrated and cross-disciplinary scientific perspective. With research integration as a first, policy development and support is the immediate next step. As the sum of its many components, this “consortium” will be able to support policymakers, who in turn will be able to rely on this network as a first choice for scientific and technical support. As a possible construct, this “consortium” involving analysis, monitoring, academia and policy actors, can be a formal institutional partner to the UN Climate Security Mechanism. This will streamline the sharing of knowledge, moving the engagement from consultation to integrated collaboration in real-time. This model does not have to be restricted to multilateral institutions. It can be tasked to provide the same technical support to regional or national institutions such as the African Union or similar regional bodies. Focusing on a rapid reaction methodology, this policy advice support function will rely on a vast amount of climate and food systems knowledge that can be rapidly translated into policy or comparative analysis to assist security actors in developing the most complete picture of a problem and draft solution paths.

(2) A Vision for CGIAR Contribution

Help us bridge the gap between our spheres of work: The CGIAR Climate security is charting a thematic connection between different areas of research and practice in food systems linked to security, climate and conflict and placing them under a common banner. The objective is to uncover and maximise synergies focusing on not only eliciting integrated research, but also on supporting role in policy development and advocacy. As part for this new area of engagement, several ideas have been rolled out, all connected with the objective of establishing an area of practice clearly responding to a timely and strategic need.

In terms of research, the whole process is to be understood as a way of integrating climate risk and natural resources management and food systems science with research counterparts in conflict and security issues. It will be focused on ensuring that the -research-to policy cycle is accelerated in a way that key research is initiated considering regional or global security priorities, and that findings timely find their way into policy, decision-making and operations to support lasting peace .

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